

Index

A

accessibility 72, 97. *See also* reusability, accessibility, interoperability, and durability (RAID)

adaptability 97

advanced distributed learning (ADL)
 Certification 106
 Co-Laboratory (ADL Co-Lab) 34, 176
 Initiative 7–8, 24, 27, 57

AESharenet 50

affordability 73

AICC 164

Alexandria 50

Alliance of Remote Instructional Authoring and Distribution Networks for Europe (ARIADNE)
 3, 23, 27, 33, 42, 50

American Sign Language (ASL) learning
 objects 96, 98–102

analysis, design, development, implementation, and evaluation (ADDIE)
 218

Angel 216

Apple Learning Interchange 202

application programming interfaces (APIs)
 226

Autodesk Inc. 3

AVIRE repository 18

B

BIOME 50

Blackboard(R) 43, 89–90, 98, 145, 216

Blue Web'n 50

bookmarking feature 142, 146

Boolean search 253

C

Campus Alberta Repository for Educational Objects (CAREO) project 7, 9, 33, 50, 202

Canada's SchoolNet 50

CANARIE 23, 27

CAPDM Sample Interactive LOS 50

CELEBRATE network 41

Charles Sanders Pierce's theory of signs 9

Cisco Systems Inc. 6–7

Internet Learning Solutions Group 60

reusable learning object model 59–61, 63

CITIDEL 50

clear, recognized, automated, familiar, thorough (CRAFT) evaluation process 205

Cmap 123, 131

Co-operative Learning Object Exchange (CLOE) 9, 50, 202, 205

cognitive flexibility theory (CFT) 134

cohesion principles 73–74, 81, 84–88

Computer Education Management Association (CEDMA) 3

Computer Science Teaching Center (CSTC) 51

Connexions 7, 51

consistency 143

content

- chunking 180–181, 191, 222, 268
- experts 239
- object 127

Content Object

- Repositories Digital Rights Administration (CORDRA) 24
- Repository Discovery and Registration/Resolution Architecture (CORDRA) 41

Corporation for National Research Initiatives (CNRI) 24, 27

coupling principles 73–74, 81, 84

course

- packs 33
- portals 32

courseware 105–107, 218

Creative Commons 44

cultural dimension 63. *See* five-dimensional framework of learning environments

customized learning 198

D

data

- objects 2
- standardization 146

design objects 120–136

Desire2Learn 145, 146, 216

developing a curriculum (DACUM) 219

Digital

- Scriptorium 51
- Think 33

digital

- learning object repositories 17–25, 73, 89, 263
- management system 20
- specification 41
- library 19
- literacy 298, 310, 313
- rights management (DRM) 44

Digital Library

- for Earth System Education 51
- Network for Engineering and Technology (DLNET) 8

discoverability 73

discrete

- learning object 220
- reusable information objects 149

distance

- education 141, 144
- learning 145
- instructional materials 141

Docent 216

DSpace™ (MIT) 24, 27, 51

Dublin Core metadata standard 41, 148, 242

durability 97. *See also* reusability, accessibility, interoperability, and durability (RAID)

E

e-learning objects 2

reusability 71

e-Learning Research and Assessment Network (eLera) 51
 EducaNext (UNIVERSAL) 51
 educational
 modeling language (EML) 9
 objects 2
 economy (EOE) 51
 Educational Software Components of Tomorrow (ESCOT) 202
 education modeling language (EML) 263–264
 Education Network Australia (EdNA) Online 23, 27, 33, 42, 51
 EDUCAUSE 5
 EDUCOM. *See* EDUCAUSE
 eduSource 24, 42
 eduSourceCanada 27
 Eisenhower National Clearinghouse for Mathematics and Science Education 51
 eLearning Objects Navigator (eLON[TM]) 141, 143, 146, 149–150
 electronic performance support system (EPSS) 126
 EM-Assist Inc. 4
 embedded knowledge 165
 encapsulation 77
 Enhanced and Evaluated Virtual Library 52
 ESCOT 51
 European
 e-ACCESS repository 41
 Knowledge Pool System 23
 Executive Order 13111 6
 exploratories 52
 extensibility 73
 extensible markup language (XML) 97

F

Fablusi role play design engine 123–124
 Fathom Knowledge Network Inc 52
 Filamentality 52
 five-dimensional framework of learning environments 62–63. *See* psychological, pedagogical, technological, cultural, pragmatic dimensions

Flash 234
 flickr 234
 Florida Distance Learning Consortium 21

G

Gagne's events of instruction 143–144, 152
 Gateway to Educational Materials (SM) (GEM) consortium 4–5, 52
 Geotechnical, Rock and Water Resources Library 52
 Global
 Education Online Depository and Exchange 52
 Learning Objects Brokered Exchange (GLOBE) 24
 granularity 59, 97, 112, 113, 143, 148–149, 181, 222, 248, 264
 grounded
 instructional design systems approach 59
 learning systems design 62

H

Harvey Project 52
 Health Education Assets Library (HEAL) 52
 Hodgins, Wayne 3–5, 10, 175
 learning object model 3
 Hofstede's cultural values 163
 Humbul Humanities Hub 52

I

Iconex 52
 IDXerator 128
 iLumina 53
 IMS Global Learning Consortium Inc. 5, 39, 41–42
 Learning Design Group 9
 Learning Object Metadata (LOM) 39, 129
 information and communication technologies (ICTs) 30
 inheritance 73
 Institute of Electrical and Electronics Engineers (IEEE) 4–5, 263

- draft standard for learning object meta-
data 5
- Learning Object Metadata (LOM) stan-
dard 31, 41
- Learning Technology Standards
Committee (LTSC) 4–
6, 19, 31, 58, 214, 263
- metadata standards 74
- instructional objects 2. *See* learning
objects
- Intel(R) Showing Evidence tool 125
- intelligent objects 2
- Interactive
 - Dialogue with Educators from Across the
State (IDEAS) 53
 - University (IU) Project 53
- Internet Learning Solutions Group (ILSG)
6
- interoperability 72, 97, 146, 233. *See al-*
so reusability, accessibility, interop-
erability, and durability (RAID)
- InTIME 262
- IThink case analysis tool 125
- J**
- Java programming language 73, 79–
82, 89
 - interface type 79–80
- Joint Information Systems Committee
(JISC) 263
 - Online Repository for (Learning and
Teaching) Materials 263
- JORUM 53
- K**
- Knowledge Agora 53
- knowledge object 2, 4
- L**
- Le@rning Federation 53
- Learn-Alberta 53
- learning
 - architecture/learning objects (LALO)
task force 3
- content management system (LCMS)
160, 170–172
- designer 127
- management system (LMS) 19–
20, 33, 89, 97, 106, 110–
113, 117–118, 122, 143–
145, 168, 176–177, 216, 225–226
- matrix 53
- objective 215
- Learning-Objects.net 54
- Learning-Objects.net (Acadia University
LOR) 53
- LearningLanguages.net 53
- Learning Objects
 - for the Arc of Washington 54
 - Learning Activities (LoLa) Exchange
10, 54
 - Metadata Working Group 58
 - Repository, University of Mauritius 53
 - Virtual College (Miami Dade) 54
- learning objects 2–10, 19, 30, 31–
33, 57–59, 71–91, 96–
102, 116, 120–136, 141–
146, 160–170, 175–191,
196–212, 214–230, 233–
243, 246–259, 262–278,
282–295
 - abstraction 73
 - benefits 209–210
 - catalog 129
 - classes 73, 81, 84, 90
 - content design 121
 - criteria (LOC) 187–188
 - design heuristic 57
 - design principles 73
 - development process 183
 - development systems 129–130
 - economy 128–129, 135
 - evaluation 205–207, 211–212
 - evaluation instrument (LOEI) 187
 - integration 203
 - intercultural issues 166
 - mark-up technology 262
 - metadata (LOM) 5
 - organization 102

- rating instrument (LORI) 186–189
- referatories 33
- repositories 97–101, 126, 185
- repositories (LOR) 202–205
- repositories (LORs) 30–45
- reuse 120
- taxonomies 97
- templates 64–67
- Learning Resources Catalog (LRC) 129
- Learning Systems Architecture Lab (LSAL) 24, 27
- LORNET 24, 27

M

- macro-level design objects 123–126, 134–135
- Macromedia Flash 237
- manageability 73
- Maricopa Learning Exchange 54
- mark-up 265
- Massachusetts Institute of Technology
 - OpenCourseWare project (MIT OCW) 264
- Math Forum 54
- media objects 2, 4, 8
- metadata 18, 21–22, 30, 32, 33, 41, 42, 58, 73, 97–98, 115–116, 129, 146–151, 177, 184, 233, 234, 242, 253, 268, 270–272
- standards 30, 57
- tags 114, 164–165, 262–263, 268
- micro-level design objects 123–124, 133–135
- migratory knowledge 164–165
- MIT OpenCourseWares 54
- mobile learning 143
- modularity 112
- modules 108–110
- Moodle 43, 89, 89–90
- MSDNAA 54
- Multimedia Educational Resource for Learning and Online Teaching (MERLOT) system 5, 7, 9, 18–19, 23–24, 27, 33, 42, 54, 185–188, 186–189, 202, 205, 262

- CATS: Community of Academic Technology Staff 54
- multisensory approach 198

N

- National
 - Education Training Group, Inc. (NETg) 3
 - Institute of Multimedia Education (NIME) 27, 42
 - glad 24
 - Learning Network: Materials 55
 - Science, Mathematics, Engineering, and Technology Education Digital Library (NSDL) 55
- NEEDS 55
- NETg 5, 9
 - learning object (NLO) 3
- New Media Consortium (NMC) 32, 236
- No Child Left Behind (NCLB) Act 246

O

- object
 - orientation 75
- object-oriented
 - learning
 - approach 90–91
 - objects 88–89
 - programming 175
 - software engineering 71–75, 80–83
- objects
 - in-theory 184, 191
 - in-use 184, 191
- online learning 155
- Online Learning Network 33
- OpenCourseWare project 7
- open learning environments 123
- Open University of The Netherlands
 - Educational Technology Expertise Centre (OTEC) 9
- OpenVES 55
- Oracle Corporation 3, 4, 6
 - learning architecture (OLA) 2, 4
- Orange Grove K20 Digital Repository 19, 21–23

P

- Pachyderm software 234–243
 - architecture 242
 - evaluation 243
 - metadata assignment 242–243
 - presentation creation 240–243
 - software development 236–239
- PBS TeacherSource 55
- pedagogical dimension 62. *See* five-dimensional framework of learning environments
- peer review 223–224
- performance criteria analysis (PCAL) 219–220, 220
- personal digital assistants (PDAs) 141–156
 - courses 154
 - learning environment 151
- Plateau 216
- pragmatic dimension 63. *See* five-dimensional framework of learning environments
- psychological dimension 62–64. *See* five-dimensional framework of learning environments

Q

- QuickScience™ 248

R

- rapid learning objects™ 2, 4
- REDEEM authoring environment 127–130
- referatories 18
- reusability 72, 97, 107, 215. *See also* reusability, accessibility, interoperability, and durability (RAID)
- reusability, accessibility, interoperability, and durability (RAID) 176–178
- reusable information objects (RIOs) 6, 60, 63–64, 144–156, 161–163, 248, 253
- reusable learning 175

- reusable learning objects (RLOs) 2, 6, 60–61, 63–64, 68, 71, 110–114, 144–156, 161–162, 169–171, 175–182, 246–259
 - model 61
 - strategy 60
- reuse 149
- Rice University secret web initiative. *See* Connexions
- Royal Roads University Centre for Economic Development and Applied Research (CEDAR) 6

S

- Saba 216
- search engines 17
- secure digital (SD) chip 143
- Securing a Hybrid Environment for Research Preservation and Access (SHERPA) Initiative 23, 27
- shareable content object reference model (SCORM) 7, 19, 22, 25, 97–98, 100, 105–106, 110–111, 117–118, 146, 149, 164, 176–177, 181, 183, 216, 224–226, 233, 248, 276
 - conformant architecture 258
- shareable content objects (SCOs) 2, 97, 107–115, 177
- situated learning environments 134
- smart learning design framework (SLDF) 126
- SMETE 33
- software engineering methodology 71
- software objects 75–79
 - classes 76, 84
- stylesheets 149

T

- "timeless" content 177
- tagging 234
- tagging scheme 18
- teaching templates 126
- technological dimension 62–63. *See* five-dimensional framework of learning environments

U

- unified modeling language (UML) 77–79
- units of learning 2
- units of study 9
- University of California's eScholarship Repository 23, 28
- University of Melbourne ePrints Repository 28
- University of Waterloo Centre for Learning and Teaching through Technology (LT3) 9

V

- video analysis tool (VAT) 265–277
 - clips 265
- Vocabulary Definition Exchange (VDEX) specification 42

W

- Web-based Inquiry Science Environment (WISE) 124
- Web-based training (WBT) curriculum 215, 216
- Web-based training (WBT) program 163–164
- Web 2.0 234
- WebCT 43, 89–90, 145, 216
- WebQuests 253
- wisc-online 264
- Wisconsin Online Resource Center (WISC-ONLINE) 202, 206
- World Wide Web (WWW) 31